

**SYNTHETIC GENES FOR ENHANCED EXPRESSION**

5 ABSTRACT OF THE DISCLOSURE

A synthetic nucleic acid sequence is disclosed, comprising a non-naturally occurring polymer of nucleic acids, having a biological function encoded by the sequence and known from a starting nucleic acid sequence, and having a difference in sequence of at least about 5% between the nucleic acids of the synthetic sequence and the starting sequence. The difference between the  
10 nucleic acid sequences results in a different free energy of folding for the synthetic sequence as compared to the starting sequence, such that the synthetic sequence would be expressed better in a selected heterologous host cell than the starting sequence would be if expressed in the same heterologous host cell.

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